SEVENTY-SEVENTH MEETING

OF

The Electrochemical Society, Inc.

WERNERSVILLE, PA.

April 24, 25, 26, 27, 1940

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A. E. Gibbs
L. C. Hurd
G. A. Perley
A. D. Spillman

Ladies' Entertainment Committee

Mrs. H. J. Creighton, Chairman

Mrs. H. A. Alsentzer
Mrs. A. K. Graham
Mrs. R. P. Heuer
Mrs. L. C. Hurd
Mrs. H. S. Lukens
Mrs. A. Osol
Mrs. G. A. Perley
Mrs. H. J. Read
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Seventy-seventh Meeting

GENERAL INFORMATION

Hotel Information

Headquarters will be at **Galen Hall Hotel,** Wernersville, Pa. **The Registration Desk** will be in the Main Lobby. It is recommended that members write at once for room reservations. The rates at Galen Hall are $7.00 per day per person for room without bath and $8.00 per day per person for room with bath. **This hotel is operated strictly on the American plan.**

Registration will begin at 7:30 p.m. in the Main Lobby of Galen Hall, on Wednesday, April 24th. The registrar will receive arriving members and guests, distribute badges and programs, and give detailed information.

Guests should be introduced by members, and when registered, may attend the sessions and receive such other courtesies as may be extended to them by the Local Committee or by the Officers of the Society. Local members of other scientific societies are invited to register as guests without introduction.

The registration fee is $5.00 per member or guest registering. This fee includes charges for all of the social functions. Everyone expecting to attend the scientific-technical sessions must register.

Places of Meetings

The scientific and technical sessions will be held in the Ball Room of Galen Hall. On Friday evening the reception to the newly elected President will be held in the Lobby of the Hotel. The Annual Dinner will be held in the Dining Room. The dance following the dinner will be in the Ball Room. There is no extra charge for the dinner for Hotel Registrants. A $3.00 charge per person to others.

Industrial Trips

Members and guests are cordially invited to inspect the interesting plants of the following companies: Lebanon Steel Foundry (Electric Furnace); Carpenter Steel Company (Electric Furnace); Reading Steel Casting Division of the American Chain and Cable Co.; Reading Hardware Co. (Electroplating); and the Pennsylvania Hardware Co. (Electroplating). Members have been urged to drive to the meeting so that their cars will be available. Others wishing to visit any of the above plants will kindly arrange for transportation at the registrar's desk.

Thursday Evening

On Thursday evening, April 25th, the Local Committee has planned a special entertainment and party for members and guests attending the Meeting. The Ball Room will be the scene of the festivities. An informal dance will follow the party with music until 1:00 a.m. The Committee has put a great deal of time and effort into

making this a real gala night. "Come to the Ball Room Thursday, April 25th, we promise you a good time!"

Friday Evening

At 7:00 p.m. Friday evening, a reception will be held in the Lobby in honor of the newly elected President of the Society. Following the reception, dinner will be served in the Dining Room. Immediately following the dinner **President H. Jermain Creighton,** will deliver his Presidential address. The award of the Young Author's Prize and that of the 1940-1941 Weston Fellowship will be made directly following President Creighton's talk. There will be a floor show and dancing until 2:00 a.m.

Recreation Facilities at Galen Hall

Galen Hall offers those in attendance at the meeting a number of recreational features including, Golf ($1.00 greens' fee), Hiking, Riding ($3.00 per hour), Table Tennis, Billiards, Swimming (outdoor pool), Chess, Checkers, Cards, or just plain relaxing in the Solarium.

Admission to Sessions and Social Functions

The Society badge, received upon registration, is absolutely essential for admission to the technical and scientific sessions, to the industrial plants and social functions. As the Hotel is **strictly on the American plan** no tickets for luncheons or dinners are necessary.

Cost of Functions

Men

Registration and Social Functions $5.00

Ladies

Registration and Social Functions $5.00

There is no extra charge for Hotel Registrants for the Annual Dinner on Friday night—**There is a $3.00 charge to others.**

See map of Wernersville district, page 28.

LADIES' PROGRAM

Wednesday, April 24, 1940

7:30-9:00 p.m. Registration, Main Lobby, Galen Hall.

Thursday, April 25, 1940

9:00 a.m. This morning has been left open. The ladies may take advantage of the many recreational features offered by Galen Hall.

12:00-1:30 p.m. Luncheon.

2:00 p.m. Visit to Cornwall Furnace by private car.

8:45-10:00 p.m. Entertainment and Party—Ball Room.

10:00-1:00 a.m. Informal dancing—Ball Room.

Friday, April 26, 1940

9:30 a.m. Bus trip to Hershey, Pa., visiting Chocolate Factory, Country Club, Educational Institute, and Museum, returning to Wernersville about 4:30 p.m. (Luncheon, complimentary, will be served at the Hotel Hershey).

7:00 p.m. Reception to the newly elected President of the Society—Lobby.

7:30 p.m. Annual Dinner — Dining Room. (No extra charge to Hotel Registrants—$3.00 per person charge to all others).

10:00-2:00 a.m. Dancing and floor show—Ball Room.

Saturday, April 27, 1940

Nothing definite has been planned for the ladies for Saturday. This will enable them to enjoy again the various recreational facilities offered by Galen Hall.

5:30 p.m. Adjournment.

Acknowledgment

The Board of Directors of the Electrochemical Society gratefully acknowledges the kind cooperation and assistance of the friends of the Society in the Wernersville district who have been largely responsible for this interesting and unusually enjoyable program.

Note to Authors of Papers

In the presentation of your paper, please state briefly: (1) the purpose of your investigation; (2) the method pursued; (3) the important results obtained; and (4) your conclusions based on your findings. A blackboard and a projection lantern will be provided. Slides (4" x 3¼") are always welcomed by the audience. Curves are more convincing than tabulations. Samples of new products should be relatively small so as to facilitate passing them among the audience.

The Wernersville Volume

The inclusion of the title of a paper in this program does not necessarily imply publication of that paper in the "Wernersville Volume" of the Electrochemical Society's Transactions.

Typewritten Discussion

Members wishing to present written discussion on any of the papers listed in this program will please submit three copies of each to Dr. Colin G. Fink, Secretary of the Society, whose office is at Columbia University, New York City.

DETAILED PROGRAM

Wednesday, April 24, 1940

6:30-8:00 p.m. Dinner at Galen Hall.

7:30-9:00 p.m. Registration at Galen Hall—Main Lobby.
NOTE: Local members and local guests are requested to register as early as possible.

8:30-9:30 p.m. Meeting of the Board of Directors, followed by the Annual Meeting of the Society, Solarium, Galen Hall. All members are urged to attend this annual meeting; Agenda: Reports on Finance, Membership, Scientific and Technical Advances, Report of Tellers of Election, Reports of various Committees.

Thursday, April 25, 1940

8:00-9:30 a.m. Group Breakfast, Galen Hall. Theoretical Division. Dr. A. E. Lorch in charge.

8:00 a.m. Registration continued, Main Lobby, Galen Hall.

9:00 a.m. Scientific-Technical Session on **"Electric Steel"**, Dr. P. H. Brace, Westinghouse Electric & Manufacturing Co., presiding. Ball Room.

(27) "The Present Status of the Electric Furnace in Industry", by W. E. Moore, Consulting Engineer, Pittsburgh Lectromelt Corp., Pittsburgh, Pa.

(19) "The Electric Furnace in the Steel Foundry", by F. A. Melmoth, Detroit Steel Casting Co., Detroit, Mich.

(29) "Electric Furnace Alloy Steels for Forgings", by H. P. Rassbach, The Midvale Co., Philadelphia, Pa.

(15) "Stainless Steel Rolled Products", by P. B. Greenawald, Metallurgical Engineer, Carpenter Steel Company, Reading, Pa.

(30) "Some New Developments in Corrosion Resistant Steels", by G. F. Landgraf, Lebanon Steel Foundry, Lebanon, Pa.

12:00-1:30 noon. Luncheon.

1:00 p.m. Plant trips (see page 3).

7:00-8:30 p.m. Informal dinner parties.

8:45-10:00 p.m. Entertainment and party—Ball Room.

10:00-1:00 a.m. Informal dance—Ball Room.

Friday, April 26, 1940

8:00-9:30 a.m. Group Breakfast Galen Hall, of the Electrodeposition Division Members. Dr. K. G. Soderberg in charge.

8:30 a.m. Registration continued — Main Lobby.

9:00 a.m. Scientific-Technical Session on "Electrodeposition of Copper and Other Metals", Dr. William Blum, National Bureau of Standards, Washington, D. C., presiding. Ball Room.

(25) "Progress in Electro-Refining of Metals", by M. Heberlein, United States Metals Refining Co., Carteret, N. J.

Friday---Continued

(4) "A Study of the Electrolysis of the Sodium Cuprocyanide Solution", by J. V. Petrocelli, Chemist, The Patent Button Co., Waterbury, Conn.

(16) "Stress in Electrodeposited Copper as Determined by X-rays", by E. M. Mahla, Dept. of Metallurgy, Lehigh Univ., Bethlehem, Pa.

(8) "Some Observations on the Structure of the Heavy Electrodeposits of Copper and Nickel", by J. W. Cuthbertson, Dept. Metallurgy, Univ. of Manchester, Manchester 13, England.

(1) "Single Metal, Binary and Ternary Alloy Deposition from Thiosulfate Solutions", by D. C. Gernes, G. A. Lorenz, and G. H. Montillon, 501 Cedar St., Florence, Ala., Shell Petroleum Corp., Wood River, Ill., Univ. of Minnesota, Minneapolis, Minn., respectively.

(22) "Electrolytic Stripping of Copper from Zinc Base Die Castings", by W. B. Stoddard, Jr., 3720 Benninghofen Ave., Hamilton, Ohio.

(9) "Some Experiments Showing the Directional Reactivities of Single Crystals of Copper," by A. T. Gwathmey and A. F. Benton, Res. Assoc., Univ. of Virginia and Prof. of Chemistry, Univ. of Virginia, Charlottesville, Va., respectively.

(18) "Recent History of Cobalt Nickel Plating", by L. Weisberg, 71 W. 45th St., New York City.

12:00-1:30 noon. Luncheon.

1:30 p.m. Plant trips (see page 3).

1:30 p.m. Scientific-Technical Session on **"Galvanic Effects and Other Electrochemical Phenomena"**, Dr. Hiram S. Lukens, Univ. of Pennsylvania, Philadelphia, Pa., presiding.

Friday---Continued

(17) "The Application of Electromotive Force Measurements to Binary Metal Systems", by H. Seltz, Dept. of Chemistry, Carnegie Inst. of Tech., Pittsburgh, Pa.

(20) "The Electrolytic Etching of Brass", by G. C. Williams and G. Rieger, Chemical Engineer, Univ. of Louisville, Louisville, Ky., and Asst. in Chemical Engineering, Univ. of Minnesota, Minneapolis, Minn., respectively.

(7) "Influence of the Rotation of the Base Metal in the Processes of Electrodeposition and of 'Displacement' of Metals from the Solutions of Their Baths", by R. Piontelli, Prof. of Electrochemistry, Univ. of Milan, Milan, Italy.

(12) "X-ray Analysis of Corrosion Products from Galvanized Sheets", by F. R. Morral, Continental Steel Corp., Kokomo, Ind.

(11) "Irreversible Electrode Phenomena of Thallium," by I. M. LeBaron and A. R. Choppin, Dept. of Chemistry, Colorado School of Mines, Golden, Colo., Dept. of Chemistry, Louisiana State Univ., University, La., respectively.

(13) "Photoelectric Cells Sensitive to Long Wave Length Radiation: The Bismuth Sulfide Cell", by Colin G. Fink and J. S. Mackay, Div. of Electrochemistry, Columbia Univ., New York City and Catalytic Development Co., Marcus Hook, Pa., respectively.

(2) "On Paste Compositions for Isolated Lighting Plant Lead Storage Batteries", by E. H. Kooten and O. W. Brown, Dept. of Chemistry, Indiana Univ., Bloomington, Ind.

(6) "Cold Welding of Silver—II", by G. R. Van Duzee and J. M. Thomas, Lehigh Univ., Bethlehem, Pa.

7:00 p.m. Reception to the newly elected President of the Society, Lobby, Galen Hall.

Friday---Continued

7:30 p.m. Annual Dinner (no extra charge for Hotel Registrants—$3.00 charge to all others). Dining Room. Presidential Address, Award of Young Author's Prize and Weston Fellowship.

10:00-2:00 a.m. Dancing and floor show—Ball Room, Galen Hall.

Saturday, April 27, 1940

8:00-9:30 a.m. Group Breakfast of the new Electro-Organic Division. Prof. Sherlock Swann, Jr., in charge. Galen Hall.

8:30 a.m. Registration continued in Main Lobby, Galen Hall.

9:00 a.m. Scientific-Technical Session on **"Electrolytic Oxidation and Reduction"**, Dr. H. Jermain Creighton, Swarthmore College, Swarthmore, Pa., presiding.

(23) "The Theory of the Potential and the Technical Practice of Electrodeposition—I", by C. Kasper, National Bureau of Standards, Washington, D. C.

(28) "The Theory of the Potential and the Technical Practice of Electrodeposition—II", by C. Kasper, National Bureau of Standards, Washington, D. C.

(3) "Triple Ions and Transference Numbers", by M. Dole, Dept. of Chemistry, Northwestern Univ., Evanston, Ill.

(14) "Oxidation-Reduction Potentials and Their Applications: A Review", by S. Glasstone, Frick Chemical Lab., Princeton, N. J.

(15) "Porous Carbon Electrodes. II. Oxidation of Arsenite", by M. Janes, National Carbon Co., Inc., Res. Labs., Cleveland, Ohio.

(10) "A Theory for the Passivity of Chromium", by Sister Aida Ryan and H. Heinrich, Madonna High School, Root St. & College Ave., Aurora, Ill., Dept. of Chemistry, Marquette Univ., Milwaukee, Wis., respectively.

(21) "The Electrochemical Oxidation of n-Hexanol", by W. R. Lowstuter and A. Lowy, Dept. of Chemistry, Univ. of Pittsburgh, Pittsburgh, Pa.

Saturday---Continued

(26) "Electro-Organic Chemical Preparations. II", by S. Swann, Jr., Dept. of Chemistry, Univ. of Ollinois, Urbana, Ill.

(24) "The Harmful Effect of Direct and Alternating Currents on Plant Growth", by E. Burstein, L. Aliminosa and L. Moriber, 1538 Tennesse St., Lawrence, Kan., Dept of Chemistry, Brooklyn College, Brooklyn, N. Y., respectively.

12:00-1:30 noon. Luncheon.

1:30 p.m. Young Men's Meeting—Scientific Session on **"Fundamental Electrochemical Subjects"**, Dr. Johnstone S. Mackay of the Catalytic Development Company, Marcus Hook, Pa., presiding.

5:30 p.m. Adjournment.

FALL MEETING

at the

CHATEAU LAURIER
Ottawa, Canada

October 2, 3, 4, and 5, 1940

TWO GENERAL SESSIONS

Electrometallurgical Industries of Canada

Developments in Electronics

Manuscripts for the Fall Meeting are due at the Secretary's Office **not later than July 15, 1940**

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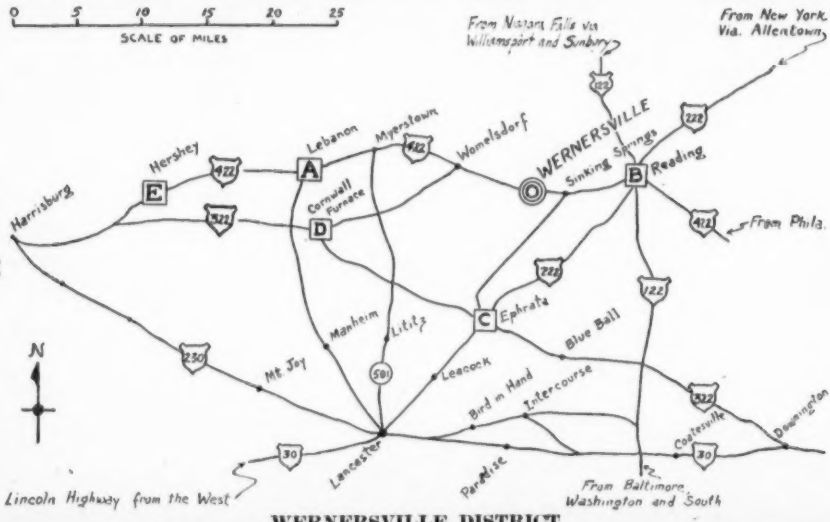

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Lincoln Highway from the West

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WERNERSVILLE DISTRICT

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